

**SEQUENCE LISTING**

<110> Virca, Duke

Bird, Timothy A.  
Anderson, Dirk M.  
Marken, John S.

<120> Human cDNAs Encoding Polypeptides Having Kinase Functions

<130> 2877-US

<160> 16

<170> PatentIn Ver. 2.0

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<213> Homo sapiens

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1085

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<213> Homo sapiens

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<211> 1498

<212> DNA

<213> Homo sapiens

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<211> 60

<212> PRT

<213> Homo sapiens

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Thr Gln Glu His Thr Arg Thr Glu Arg Ser Val Leu Glu Leu Val Arg  
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Gln Ala Pro Phe Leu Val Thr Leu His Tyr Ala Phe Gln Thr Asp Ala  
35 40 45

Lys Leu His Leu Ile Leu Asp Tyr Val Ser Gly Gly  
50 55 60

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<211> 73

<212> PRT

<213> Homo sapiens

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Ala Ser His Gln Ala Glu Pro Glu Ala Tyr Glu Arg Arg Val Cys Phe  
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Leu Leu Leu Gln Leu Cys Asn Gly Leu Glu His Leu Lys Glu His Gly  
35 40 45

Ile Ile His Arg Asp Leu Cys Leu Glu Asn Leu Leu Leu Val His Cys  
50 55 60

Thr Leu Gln Ala Gly Pro Gly Pro Ala  
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<210> 9  
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35 40 45  
  
Ala Ala Pro Ala Gly Ser Leu Ser Arg Lys Lys Arg Leu Glu Leu Asp  
50 55 60  
  
Asp Asn Leu Asp Thr Glu Arg Pro Val Gln Lys Arg Ala Arg Ser Gly  
65 70 75 80  
  
Pro Gln Pro Arg Leu Pro Pro Cys Leu Leu Pro Leu Ser Pro Pro Thr  
85 90 95  
  
Ala Pro Asp Arg Ala Thr Ala Val Ala Thr Ala Ser Arg Leu Gly Pro  
100 105 110  
  
Tyr Val Leu Leu Glu Pro Glu Glu Gly Arg Ala Tyr Gln Ala Leu  
115 120 125  
  
His Cys Pro Thr Gly Thr Glu Tyr Thr Cys Lys Val Tyr Pro Val Gln  
130 135 140  
  
Glu Ala Leu Ala Val Leu Glu Pro Tyr Ala Arg Leu Pro Pro His Lys  
145 150 155 160  
  
His Val Ala Arg Pro Thr Glu Val Leu Ala Gly Thr Gln Leu Leu Tyr  
165 170 175  
  
Ala Phe Phe Thr Arg Thr His Gly Asp Met His Ser Leu Val Arg Ser  
180 185 190  
  
Arg His Arg Ile Pro Glu Pro Glu Ala Ala Val Leu Phe Arg Gln Met  
195 200 205  
  
Ala Thr Ala Leu Ala His Cys His Gln His Gly Leu Val Leu Arg Asp  
210 215 220  
  
Leu Lys Leu Cys Arg Phe Val Phe Ala Asp Arg Glu Arg Lys Lys Leu  
225 230 235 240  
  
Val Leu Glu Asn Leu Glu Asp Ser Cys Val Leu Thr Gly Pro Asp Asp  
245 250 255  
  
Ser Leu Trp Asp Lys His Ala Cys Pro Ala Tyr Val Gly Pro Glu Ile  
260 265 270  
  
Leu Ser Ser Arg Ala Ser Tyr Ser Gly Lys Ala Ala Asp Val Trp Ser  
275 280 285  
  
Leu Gly Val Ala Leu Phe Thr Met Leu Ala Gly His Tyr Pro Phe Gln

290

295

300

Asp Ser Glu Pro Val Leu Leu Phe Gly Lys Ile Arg Arg Gly Ala Tyr  
305 310 315 320

Ala Leu Pro Ala Gly Leu Ser Ala Pro Ala Arg Cys Leu Val Arg Cys  
325 330 335

Leu Leu Arg Arg Glu Pro Ala Glu Arg Leu Thr Ala Thr Gly Ile Leu  
340 345 350

Leu His Pro Trp Leu Arg Gln Asp  
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<210> 10

<211> 146

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<213> Homo sapiens

<221> UNSURE

<222> (140)..(140)<223> UNSURE

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20 25 30

Trp Leu Leu Leu Pro Phe Phe Lys Arg Gly Thr Leu Trp Asn Glu Ile  
35 40 45

Glu Arg Leu Lys Asp Lys Gly Asn Phe Leu Thr Glu Asp Gln Ile Leu  
50 55 60

Trp Leu Leu Leu Gly Ile Cys Arg Gly Leu Glu Ala Ile His Ala Lys  
65 70 75 80

Gly Tyr Ala Tyr Arg Asp Leu Lys Pro Thr Asn Ile Leu Leu Gly Asp  
85 90 95

Glu Gly Gln Pro Val Leu Met Asp Leu Gly Ser Met Asn Gln Ala Cys  
100 105 110

Ile His Val Glu Gly Ser Arg Gln Ala Leu Thr Leu Gln Asp Trp Ala  
115 120 125

Ala Gln Arg Cys Thr Ile Ser Tyr Arg Ala Pro Xaa Leu Phe Ser Val  
130 135 140

Gln Ser

145

<210> 11

<211> 505

<212> PRT

<213> Homo sapiens

<400> 11

Met Leu Thr Ser Leu Asn Arg Ser Trp Asn Glu Thr Thr Cys Cys Gly  
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Arg Ala Ser Phe Leu Glu Leu Cys Thr Gly Gln Ile Gly Arg Thr Pro  
20 25 30

Leu Gly Arg Arg Glu Gly Met Glu Asn Leu Lys His Ile Ile Thr Leu  
35 40 45

Gly Gln Val Ile His Lys Arg Cys Glu Glu Met Lys Tyr Cys Lys Lys  
50 55 60

Gln Cys Arg Arg Leu Gly His Arg Val Leu Gly Leu Ile Lys Pro Leu  
65 70 75 80

Glu Met Leu Gln Asp Gln Gly Lys Arg Ser Val Pro Ser Glu Lys Leu  
85 90 95

Thr Thr Ala Met Asn Arg Phe Lys Ala Ala Leu Glu Glu Ala Asn Gly  
100 105 110

Glu Ile Glu Lys Phe Ser Asn Arg Ser Asn Ile Cys Arg Phe Leu Thr  
115 120 125

Ala Ser Gln Asp Lys Ile Leu Phe Lys Asp Val Asn Arg Lys Leu Ser  
130 135 140

Asp Val Trp Lys Glu Leu Ser Leu Leu Gln Val Glu Gln Arg Met  
145 150 155 160

Pro Val Ser Pro Ile Ser Gln Gly Ala Ser Trp Ala Gln Glu Asp Gln  
165 170 175

Gln Asp Ala Asp Glu Asp Arg Arg Ala Phe Gln Met Leu Arg Arg Asp  
180 185 190

Asn Glu Lys Ile Glu Ala Ser Leu Arg Arg Leu Glu Ile Asn Met Lys  
195 200 205

Glu Ile Lys Glu Thr Leu Arg Gln Tyr Leu Pro Pro Lys Cys Met Gln  
210 215 220

Glu Ile Pro Gln Glu Gln Ile Lys Glu Ile Lys Lys Glu Gln Leu Ser  
225 230 235 240

Gly Ser Pro Trp Ile Leu Leu Arg Glu Asn Glu Val Ser Thr Leu Tyr  
245 250 255

Lys Gly Glu Tyr His Arg Ala Pro Val Ala Ile Lys Val Phe Lys Lys  
260 265 270

Leu Gln Ala Gly Ser Ile Ala Ile Val Arg Gln Thr Phe Asn Lys Glu  
275 280 285

Ile Lys Thr Met Lys Lys Phe Glu Ser Pro Asn Ile Leu Arg Ile Phe  
290 295 300

Gly Ile Cys Ile Asp Glu Thr Val Thr Pro Pro Gln Phe Ser Ile Val  
305 310 315 320

Met Glu Tyr Cys Glu Leu Gly Thr Leu Arg Glu Leu Leu Asp Arg Glu

325	330	335	
Lys Asp Leu Thr Leu Gly Lys Arg Met Val Leu Val Leu Gly Ala Ala			
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Arg Gly Leu Tyr Arg Leu His His Ser Glu Ala Pro Glu Leu His Gly			
355	360	365	
Lys Ile Arg Ser Ser Asn Phe Leu Val Thr Gln Gly Tyr Gln Val Lys			
370	375	380	
Leu Ala Gly Phe Glu Leu Arg Lys Thr Gln Thr Ser Met Ser Leu Gly			
385	390	395	400
Thr Thr Arg Glu Lys Thr Asp Arg Val Lys Ser Thr Ala Tyr Leu Ser			
405	410	415	
Pro Gln Glu Leu Glu Asp Val Phe Tyr Gln Tyr Asp Val Lys Ser Glu			
420	425	430	
Ile Tyr Ser Phe Gly Ile Val Leu Trp Glu Ile Ala Thr Gly Asp Ile			
435	440	445	
Pro Phe Gln Gly Cys Asn Ser Glu Lys Ile Arg Lys Leu Val Ala Val			
450	455	460	
Lys Arg Gln Gln Glu Pro Leu Gly Glu Asp Cys Pro Ser Glu Leu Arg			
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Glu Ile Ile Asp Glu Cys Arg Ala Ala Gly Arg Leu Val Pro Arg Ser			
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Val Ala Ala Ala Arg Ala Val Asp Val			
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<212> PRT  
<213> Homo sapiens

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Asp	Leu	Asp	Ser	Leu	Cys	Ala	Gly	Met	Glu	Gln	Ser	Leu	Arg	Ala	Gly
35															
Pro	Asn	Glu	Pro	Glu	Gly	Gly	Asp	Lys	Ser	Arg	Lys	Ser	Ala	Lys	Gly
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Val	Arg	Lys	Asn	Ser	Arg	Asp	Glu	Glu	Lys	Arg	Glu	Ser	Arg	Ile	Lys
85															
Ser	Tyr	Ser	Pro	Tyr	Ala	Phe	Lys	Phe	Phe	Met	Glu	Gln	His	Val	Glu

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Glu Gln Glu Met Ala Lys Ala Gly Leu Cys Glu Ala Glu Gln Glu Gln		
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Met Arg Lys Ile Leu Tyr Gln Lys Glu Ser Asn Tyr Asn Arg Leu Lys		
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Arg Ala Lys Met Asp Lys Ser Met Phe Val Lys Ile Lys Thr Leu Gly		
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Ile Gly Ala Phe Gly Glu Val Cys Leu Ala Cys Lys Val Asp Thr His		
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Ala Leu Tyr Ala Met Lys Thr Leu Arg Lys Lys Asp Val Leu Asn Arg		
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Asn Gln Val Ala His Val Lys Ala Glu Arg Asp Ile Leu Ala Glu Ala		
210	215	220
Asp Asn Glu Trp Val Val Lys Leu Tyr Tyr Ser Phe Gln Asp Lys Asp		
225	230	235
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Ser Leu Tyr Phe Val Met Asp Tyr Ile Pro Gly Gly Asp Met Met Ser		
245	250	255
Leu Leu Ile Arg Met Glu Val Phe Pro Glu His Leu Ala Arg Phe Tyr		
260	265	270
Ile Ala Glu Leu Thr Leu Ala Ile Glu Ser Val His Lys Met Gly Phe		
275	280	285
Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Ile Asp Leu Asp Gly		
290	295	300
His Ile Lys Leu Thr Asp Phe Gly Leu Cys Thr Gly Phe Arg Trp Thr		
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His Asn Ser Lys Tyr Tyr Gln Lys Gly Ser His Val Arg Gln Asp Ser		
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Met Glu Pro Ser Asp Leu Trp Asp Asp Val Ser Asn Cys Arg Cys Gly		
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Asp Arg Leu Lys Thr Leu Glu Gln Arg Ala Arg Lys Gln His Gln Arg		
355	360	365
Cys Leu Ala His Ser Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu		
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Val Leu Leu Arg Lys Gly Tyr Thr Gln Leu Cys Asp Trp Trp Ser Val		
385	390	395
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Gly Val Ile Leu Phe Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala		
405	410	415
Pro Thr Pro Thr Glu Thr Gln Leu Lys Val Ile Asn Trp Glu Asn Thr		
420	425	430

Leu His Ile Pro Ala Gln Val Lys Leu Ser Pro Glu Ala Arg Asp Leu  
435 440 445

Ile Thr Lys Leu Cys Cys Ser Ala Asp His Arg Leu Gly Arg Asn Gly  
450 455 460

Ala Asp Asp Leu Lys Ala His Pro Phe Phe Ser Ala Ile Asp Phe Ser  
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Ser Asp Ile Arg Lys His Pro Ala Pro Tyr Val Pro Thr Ile Ser His  
485 490 495

Pro Met Glu

<210> 13

<211> 375

<212> DNA

<213> Homo sapiens

<400> 13

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<210> 14

<211> 125

<212> PRT

<213> Homo sapiens

<400> 14

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20 25 30

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35 40 45

Ile Tyr Ser Phe Gly Ile Val Leu Trp Glu Ile Ala Thr Gly Asp Ile  
50 55 60

Pro Phe Gln Gly Cys Asn Ser Glu Lys Ile Arg Lys Leu Val Ala Val  
65 70 75 80

Lys Arg Gln Gln Glu Pro Leu Gly Glu Asp Cys Pro Ser Glu Leu Arg  
85 90 95

Glu Ile Ile Asp Glu Cys Arg Ala His Asp Pro Ser Val Arg Pro Ser  
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Val Asp Glu Ile Leu Lys Lys Leu Ser Thr Phe Ser Lys  
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<210> 15  
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35 40 45  
Asn Glu Pro Glu Gly Gly Asp Lys Ser Arg Lys Ser Ala Lys Gly Asp  
50 55 60  
Lys Gly Gly Lys Asp Lys Lys Gln Ile Gln Thr Ser Pro Val Pro Val

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85	Arg	Asp	Glu
	Glu	Glu	Lys
	Arg	Glu	Ser
		Arg	Ile
			Lys
		Ser	
Tyr	Ser	Pro	Tyr
100	Ala	Phe	Lys
	Phe	Phe	Met
		Glu	Gln
		His	Val
			Glu
			Asn
Val	Ile	Lys	Thr
115	Tyr	Gln	Gln
		Lys	Val
		Asn	Arg
		Arg	Leu
			Gln
			Leu
			Glu
Gln	Glu	Met	Ala
130	Lys	Ala	Gly
		Leu	Cys
		Glu	Ala
		Gln	Glu
		Gln	Met
Arg	Lys	Ile	Leu
145	Tyr	Gln	Lys
		Glu	Ser
		Asn	Tyr
		Asn	Arg
		Arg	Leu
		Lys	Arg
Ala	Lys	Met	Asp
165	Lys	Ser	Met
		Phe	Val
		Lys	Ile
		Lys	Thr
		Leu	Gly
		Ile	
Gly	Ala	Phe	Gly
180	Glu	Val	Gly
	Cys	Leu	Leu
		Cys	Cys
		Lys	Val
		Asp	Thr
			His
Leu	Tyr	Ala	Met
195	Lys	Thr	Leu
	Arg	Lys	Lys
		Asp	Val
		Leu	Asn
		Arg	Asn
Gln	Val	Ala	His
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		Glu	Arg
		Asp	Ile
		Leu	Ala
		Glu	Ala
		Asp	
Asn	Glu	Trp	Val
225	Val	Lys	Leu
		Tyr	Tyr
		Ser	Phe
		Gln	Asp
		Lys	Asp
		Ser	Ser
Leu	Tyr	Phe	Val
245	Met	Asp	Tyr
	Ile	Pro	Gly
		Gly	Asp
		Met	Met
		Ser	Leu
Leu	Ile	Arg	Met
260	Glu	Val	Phe
	Pro	Glu	His
		Leu	Ala
		Arg	Phe
		Tyr	Ile
Ala	Glu	Leu	Thr
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		Glu	Ser
		Val	Val
		His	Lys
		Met	Gly
		Phe	Ile
His	Arg	Asp	Ile
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		Ile	Asp
		Leu	Asp
		Gly	His
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		Cys	Cys
		Thr	Gly
		Phe	Arg
		Arg	Trp
		Trp	Thr
		Thr	His
Asn	Ser	Lys	Tyr
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		Gly	Ser
		His	Val
		Arg	Arg
		Gln	Gln
		Asp	Asp
Glu	Pro	Ser	Asp
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		Cys	Arg
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Arg	Leu	Lys	Thr
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		Arg	Ala
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		Lys	Gln
		Gln	His
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		Thr	Pro
		Asn	Tyr
		Ile	Ala
		Pro	Glu
		Val	
Leu	Leu	Arg	Lys
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		Gln	Gln
		Leu	Cys
		Cys	Asp
		Asp	Trp
		Trp	Trp
		Ser	Val
		Gly	

Val Ile Leu Phe Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala Pro  
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Thr Pro Thr Glu Thr Gln Leu Lys Val Ile Asn Trp Glu Asn Thr Leu  
420 425 430

His Ile Pro Ala Gln Val Lys Leu Ser Pro Glu Ala Arg Asp Leu Ile  
435 440 445

Thr Lys Leu Cys Cys Ser Ala Asp His Arg Leu Gly Arg Asn Gly Ala  
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Asp Asp Leu Lys Ala His Pro Phe Phe Ser Ala Ile Asp Phe Ser Ser  
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Asp Ile Arg Lys His Pro Ala Pro Tyr Val Pro Thr Ile Ser His Pro  
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Met Asp Thr Ser Asn Phe Asp Pro Val Asp Glu Glu Ser Pro Trp Asn  
500 505 510

Asp Ala Ser Glu Gly Ser Thr Lys Ala Trp Asp Thr Leu Thr Ser Pro  
515 520 525

Asn Asn Lys His Pro Glu His Ala Phe Tyr Glu Phe Thr Phe Arg Arg  
530 535 540

Phe Phe Asp Asp Asn Gly Tyr Pro Phe Arg Cys Pro Lys Pro Ser Gly  
545 550 555 560

Ala Glu Ala Ser Gln Ala Glu Ser Ser Asp Leu Glu Ser Ser Asp Leu  
565 570 575

Val Asp Gln Thr Glu Gly Cys Gln Pro Val Tyr Val  
580 585